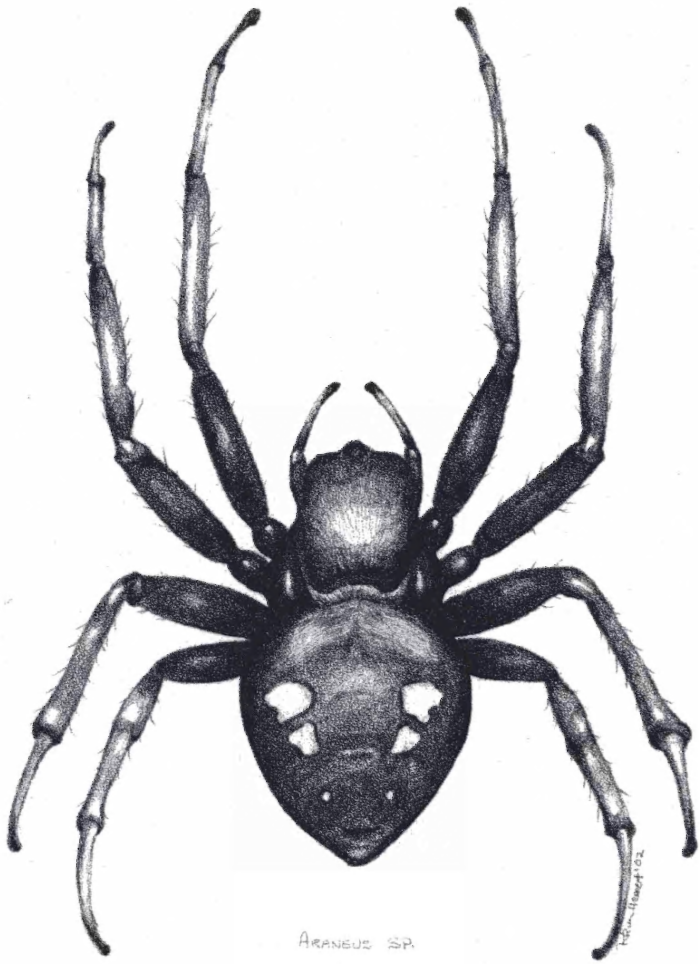
MYRMECIA

News Bulletin of the Australian Entomological Society Inc.
Volume 39, Part 1, February 2003
Australia Post Print Post Publication PP242296/00144.
Price $5.50 (including GST) ISSN 1323-6032



AUST. ENTOMOL. SOC. EXECUTIVE ADDRESS
Australian Entomological Society Executive
c/- Institute for Horticultural Development
Private Bag 15, Ferntree Gully Delivery Centre
VIC 3156, AUSTRALIA

SOCIETY WEB SITE
http://www.agric.nsw.gov.au/Hort/ascu/myrmecia/myrmecia.htm

Patron
His Excellency, Dr Peter Hollingworth AC OBE, Governor-General of the Commonwealth of Australia

OFFICE BEARERS

President
James Ridsdill-Smith
CSIRO Entomology,
Private Bag No. 5. PO Wembley,
Western Australia 6014
james.ridsdill-smith@csiro.au

Vice President
Dr P.M. Ridland
c/- Executive Address above
Ph (03) 9210 9222
Fax (03) 9800 3521
Peter.Ridland@nre.vic.gov.au

Secretary
Ms N.M. Endersby
c/- Executive Address above
Ph (03) 9210 9222
Fax (03) 9800 3521
Nancy.Endersby@nre.vic.gov.au
Nancy.Endersby@sci.monash.edu.au

Treasurer
Mr I.D. Endersby
56 Looker Rd
Montmorency VIC 3094
Ph (03) 9435 4781
Fax (03) 9435 4781
endersby@mira.net

Public Officer
Dr E. Jane Wright
CSIRO Entomology
GPO Box 1700 Canberra ACT 2601
Ph (02) 6246 4183
Fax (02) 6246 4202
e.jane.wright@csiro.a

THE COVER

Robbie van Hemert from Newcastle won second prize at Freemantle in the Society Insect Illustration competition with this drawing of a spider.

Promotions Officer
Dr Glynn Maynard
AFFA
GPO Box 858
Canberra ACT 2601
Ph (02) 6272 3544
glynn.maynard@affa.gov.au

Chief Editor
Dr Peter Allsopp
Bureau of Sugar Experiment Stations
Private Bag 4, Bundaberg, DC 4670
Ph 07 4132 5200
Fax 07 4132 5253
pallsopp@bses.org.au

Technical Editors
Dr A.L. Bishop
Horticultural Research Station
Box 581 Gosford NSW 2250
Ph (02) 43481928
Fax (02) 43481910
alan.bishop@agric.nsw.gov.au

Dr K.L. Walker
Museum Victoria
GPO Box 666E
Melbourne Vic 3001
Ph (03) 8341 7432
Fax (03) 8341 7750
kwalker@mov.vic.gov.au

Dr A.R. (Tony) Clarke
Australian School of Env. Studies
Griffith Uni. Nathan Campus,
Nathan, 4111, Qld.
Ph & fax: (07) 3875 3846
T.Clarke@mailbox.gu.edu.au

Dr A. Andersen
CSIRO Wildlife & Ecology
Tropical Ecosystems Research Centre
PMB 44, Winnellie NT 0821
Ph (089) 22 1727
Fax (089) 47 0052
Alan.Andersen@terc.csiro.au

SOCIETY SUSTAINING ASSOCIATES

Bayer CropScience Pty Ltd
Integrated Pest Management (Bugs for Bugs)

COUNCILLORS

Australian Capital Territory
Mr Kimberi Pullen
CSIRO Entomology
GPO Box 1700
Canberra, ACT, 2601
Ph (02) 6246 4263
Fax (02) 6246 4364
kim.pullen@csiro.au

Dr E. Jane Wright
CSIRO Entomology
GPO Box 1700
Canberra ACT 2601
Ph (02) 6246 4183
Fax (02) 6246 4202
e.jane.wright@csiro.au

New South Wales
Mr John Macdonald
The University of Sydney,
Orange
PO Box 883
Orange NSW 2800
Ph (02) 6360 5520
Fax (02) 6360 5590
Jmacdona@orange.usyd.edu.au

Dr Alan Clift
Department of Crop Sciences
University of Sydney
NSW 2006
Ph (02) 93512938
Fax (02) 93517504
clifta@agric.usyd.edu.au

Dr Robin Gunning
NSW Agriculture
RMB 944
Calala Lane
Tamworth NSW 2340
Ph (02) 6763 1128
Fax (02) 6763 1222
robin.gunning@agric.nsw.gov.au

Northern Territory
Dr Tracy Dawes-Gromadzki
CSIRO Tropical Ecosystems
Research Centre, PMB 44
Winnellie NT 0822
Ph (08) 8944 8400
Fax (08) 8944 8444
tracy.dawes-
gromadzki@csiro.au

Queensland
Ms Kerrie Huxham
NAQS AQIS
Centre for Tropical Agriculture
PO Box 1054
Mareeba QLD 4880
Ph (07) 40484600
Fax (07) 40923593
kerrie.huxham@aqis.gov.au

Ms Jane Royer
Qld Dept Primary Industries
21 Redden St
Cairns QLD 4870
Ph: (07) 40 441 640
jane.royer@dpi.qld.gov.au

Ms Bronwyn Walsh
Queensland Horticulture Institute
Dept Primary Industries
Gatton Research Station
Locked Bag 7, MS 437
Gatton QLD 4343
Ph (07) 5466 2222
Fax (07) 5462 3223
Bronwyn.Walsh@dpi.qld.gov.au

Papua New Guinea
Dr Lastus Kuniata
Ramu Sugar Ltd
P.O.Box 2183,Lae 411
Papua New Guinea
Ph 675 474 3299;
Fax 675 474 3295
lkuniata@ramusugar.com.pg

South Australia
Glenys Wood
SARDI
GPO Box 397
Adelaide SA
Ph (08) 8303 9660
Wood.glenys@saugov.sa.gov.au

Tasmania
Owen Seeman
Department of Primary Indus-
tries, Water and Environment
13 St Johns Ave
New Town TAS 7008
Ph (03) 6233 6833
Fax (03) 6228 5123
Owen.Seeman@dpiwe.tas.gov.au

Victoria
Dr Ross Field
Dept Nat Res & Environment
16/8 Nicholson Street
PO Box 500
East Melbourne Vic 3002
Ph (03) 9637 8690
Fax (03) 9637 8131
Ross.Field@nre.vic.gov.au

Ms Catherine Mansfield
Institute for Sustainable Irrigated
Agriculture
Private Bag 1
Tatura Vic 3616
Ph (03) 5833 5225
Fax (03) 5833 5229
Cathy.Mansfield@nre.vic.gov.au

Western Australia
Dr Tara Simmul
Serve-Ag, WA
11A Pike Street
Karrinyup WA 6018
Ph 0428 948 245
mendham@smartchat.net.au

SOCIETY REPRESENTATIVES

Entomological Society of New South Wales
E.E. Taylor
5 Endeavour Avenue
La Perouse
NSW 2036

Ent. Society of Queensland
Dr J. King
QDPI Forestry Service
PO Box 631
Indooroopilly Q 4068
Ph (07) 3877 9716
Fax (07) 3371 2217

Entomological Society of Victoria
Mr Ian Endersby (acting)
56 Looker Road
Montmorency VIC 3094
Ph (03) 9435 4781
endersby@mira.net

SOCIETY HONORARY MEMBERS
Dr B.R. Champ
Dr I.F.B. Common
Dr E.N. Marks
Dr K.R. Norris
Dr C.N. Smithers
Dr D.F. Waterhouse

MACKERRAS MEDALLISTS
1984 Dr J.A.L. Watson
1986 Dr R.W. Sutherst
1988 Dr T.R. New
1990 Dr R.A.I. Drew
1992 Dr E.S. Nielsen
1996 Dr M.P. Zalucki
2000 Dr P.G. Allsopp
2002 Dr G.P. Fitt

***MYRMECIA* EDITOR**
Laurence Mound
laurence.mound@csiro.au

ASSISTED BY:
Tish Silberbauer: lsilberb@metz.une.edu.au

IMMEDIATE PAST PRESIDENT
Prof. A.D. Austin
University of Adelaide,
Waite Campus, Private Mail Bag 1,
Glen Osmond, South Australia 5064

CONSERVATION COMMITTEE
The Vice President & Secretary are *ex officio* members of the Conservation Committee

Convenor
Dr R. V. Gunning
Ph (02) 6763 1128
Fax (02) 6763 1222
robin.gunning@agric.nsw.gov.au

Prof Jonathan Majer (WA)
Ph (08) 9266 7041
Fax (08) 9266 2495
J.Majerj@curtin.edu.au

Dr T. New (Vic)
Ph (03) 9479 2247
Fax (03) 9478 1551
zootn@zoo.latrobe.edu.au

Claire Stephens (SA)
Ph (08) 8303 7276
Fax (08) 8379 4095
cstephens2@waite.adelaide.edu.au

Dr A. N. Andersen (NT)
Ph (089) 448431
Fax (089) 448444
Alan.Andersen@terc.csiro.au

Dr D. P. Sands (Qld)
Ph (07) 32142803
Don.Sands@brs.ento.csiro.au

Printed by:
GOANNA PRINT
151-155 Gladstone St.
Fyshwick ACT 2609
Fax (02) 6280 7369

Distributed by:
Blackwell Publishing Asia
550 Swanston St
CARLTON VIC 3053
Ph (03) 9347 0300

MYRMECIA WEB ADDRESS:

http://www.agric.nsw.gov.au/Hort/ascu/myrmecia/myrmecia.htm

CONTENTS

Editorial	1
Cover Artist	2
Hobart 2003	2
Ian Thornton - Obituary	2
Harry Baker - Obituary	4
Executive Minutes	5
Phil Carne Prize	6
Promoting the Society	6
AES 33rd AGM	8
Regional News	
Australian Capital Territory	6
New South Wales	8
Queensland – North	8
Queensland – South	11
South Australia	11
Tasmania	12
Victoria	13
Western Australia	14
Papua New Guinea	15
Notices	16
Nomination Form	19

NOTICE

Statements made in *Myrmecia* do not necessarily represent the views of the Australian Entomological Society. Items printed herein should not be reproduced without permission of the author of the material.

COPY DEADLINE FOR NEXT ISSUE

Material for publication in our May 2003 issue should be in the hands of the Editor before **Friday 18 April 2003**.

Copy is requested as .rtf e-mail attachments at: laurence@csiro.au

EDITORIAL

This year Canberra has had another "Cicada summer". That wonderful noise of thousands of males, of several species, all crying out "me, me!" filled the air for several weeks. Then that was replaced by the quieter chomping of the Christmas beetles – one of the more eerie sounds in forest being the gentle patter of beetle frass and half consumed gum leaves as those beautiful beetles do their thing. And if you have even the faintest interest in beetles, visit this Australian Museum web site today:

< http://www.faunanet.gov.au/keys/index.htm>, and delight yourself with the fantastic pictures organised by Gerry Cassis and Chris Reid. But so much for entomological delights. As *Myrmecia* goes to press the surrounding mountains are concealed by smoke, and charred fragments of gum leaves and ferns are raining down on the city. The prolonged and intense drought across Australia, and now the fires, seem likely to produce a serious change in the insect (and other) fauna. Many perennial streams are dry, and the flowering season for so many plants was cut short with flowers drying as their buds opened. Even in November, the newly opened *Pultenaea* flowers in the Royal National Park were crisp and shattered when touched. It is not only the farming community that is doing it tough, the natural world appears to be facing a considerable extinction event. Presumably the Australian biota have been through this before, many times. That is one reason why the flora and fauna is so remarkable. But decreased areas of natural vegetation must lead to reduced chances of re-establishment. Bull-dozing large areas of ancient mulga trees to provide fodder for sheep does not seem the most effective way of preserving Australia's rich natural heritage. But mankind has presumably always found it easier to plan survival for today, and defer planning for the future to some more opportune moment that never comes. Meanwhile we try to survive fire, plague and pestilence – cheered by those memories of our summer holidays that now seem so long past, and that delightful cicada chorus.

[Within two hours of writing the above, a State of Emergency was declared in Canberra. So we blocked our downpipes and flooded the gutters, sealed the doors and windows and, having lost power but with

good water pressure, stood ready with garden hoses. Alice Wells and I spent the next four hours dowsing everything we could reach, including our own cotton clothing and tea-towel masks, whilst three houses nearby burnt, their barbeque gas cylinders bombing away, also 200 houses in the next suburb along with the dog pound and some public buildings. Some of you will have seen a gum tree explode – so you know how I felt when I saw my first one just across our street. I hope that this issue of *Myrmecia* is not too far below standard]

LAM

Cover Artist Myrmecia 2003

Robbie van Hemert who drew the spider on our cover admits that winning second prize at the AES Fremantle meeting came as a tremendous shock. He also claims it was a shock to everyone in the class including the teachers! However, he admits that "I love nature of all sorts and I love to draw it, and I am extremely interested in the information that backs up my drawings. I was accepted into this course with a degree in languages, and some free drawing techniques, whereas most of the students at the Newcastle School of Design have 4 years of art training behind them. Their attention to detail is amazing!" He particularly mentioned his fellow student, Lamese Larney, who carried off both the first prize for black/white illustration and second prize for colour illustration. He admits to struggling with the detail of illustrations like this Areneus spider, trying to keep his work simple and clear (the essence of good scientific illustration!). Producing such a finished illustration involves lead-up drawings from different angles, thus getting to know the organism quite well. Robbie is an avid collector, and searched libraries for books to identify his spider (since then, Robert Raven's spider cd-rom has become available through CSIRO Publishing, with photographs of all Australian spider families). It is good to see the continued production of high quality illustrations coming out of Newcastle, and our thanks should go to Herbert Heinrich, Professional Officer there, for his continued enthusiasm for the AES competitions.

HOBART 2003

28th September-3rd October

Combined 34th Australian Entomological Society/6th Invertebrate Biodiversity and Conservation Conference The 2003 conference will be held in the Corus Hotel in Hobart. It will vary somewhat from previous entomology conferences, in that we anticipate having concurrent sessions and several plenary speakers. It has been provided with an over-arching theme "*Invertebrates & Environmental Change*". This theme encompasses the management of invertebrates in natural and agro-ecosystems. The dinner will be held on the Tuesday evening at a venue on the Hobart waterfront. For more details please consult the conference web site: www.cdesign.com.au/entomology

Geoff ALLEN

OBITUARIES

Ian Walter Boothroyd Thornton, DSc, FAA

14 July 1926 – 1 October 2002

Emeritus Professor Ian Thornton, Foundation Professor of Zoology at La Trobe University, Melbourne, and a former Vice President of the Australian Entomological Society, died in Bangkok on 1 October 2002. Ian was born in Harrogate, Yorkshire, and after a period in the British army (where he became a commissioned officer in the 6th Airborne Division) read Zoology at Leeds, gaining first class honours and proceeding there to a Ph.D. (1953) supervised by Edward Broadhead, on the ecology of coexisting species of *Elipsocus* at Malham Tarn. This work marked the beginning of a lifetime interest in Psocoptera, on which Ian became a world authority. After leaving Leeds, he held university posts in Khartoum and Hong Kong before coming to Australia to found the Zoology Department at La Trobe University in early 1968. He remained at La Trobe until his forced (but, in practice, nominal) retirement at the age of 65 and, indeed, continued to lecture for several years after that time, and to actively maintain his position as a dynamic research worker until his death.

Ian manifested the very best qualities of a traditional academic leader – wide interests (manifested in his supervision of research students dealing with themes well beyond his immediate research foci), a sense of wonder and excitement at his discipline, dogged persistence, and the humanity and determination to defend the discipline and support his staff and generations of students as a stimulating, kind, and effective mentor, colleague, friend and teacher. Changes in university organisation during recent years depressed him greatly, not least because of the erosion of academic freedom and the digressions from scholarship to more routine 'training'; Ian believed, strongly, in giving people a chance to flourish, and saw changes to the system as thwarting this principle. In addition to being Head of Department for virtually all his tenure at La Trobe (a role he believed strongly should be assumed by the Professor, and in which he was endorsed by his colleagues as, for some time, the only

non-elected chairman in the university), Ian served periods as Dean of Biological Sciences and, on occasion, as Deputy Vice Chancellor. His memberships of many university boards and committees were taken seriously, and earned him respect from many colleagues in the wider university community who appreciated his abilities to think laterally about many frustrating problems. Pointed suggestions such as "putting all 'school x's' lectures on Wednesdays so as not to interfere with either weekend" were not always welcomed!

Much of his effectiveness as a teacher of Zoology drew from his own wide field experiences and interests, through which he communicated enthusiasm and knowledge to generations of undergraduates and inspired many to continuing interests in biology. He was in his element as a willing participant in numerous undergraduate field courses, where his staying power became legendary (and daunting to most younger colleagues). He led by example. Ian took to heart Darwin's sentiment that travel is improving to a naturalist, and undertook field work (with daily journal entries) in many parts of the world. His three-month visit to the Galapagos in 1967 led to the classic 'Darwin's Islands' (1971), and a sabbatical spent studying psocids in Hawaii was also instrumental in focusing his thinking about island biogeography and the evolution of insular faunas. Ian's taxonomic work on Psocoptera is itself an immensely important body of work (with some 77 papers on these insects appearing up to 2002; and his contributions acknowledged by colleagues in eight psocopterans named '*thorntoni*' and the genus *Thorntoniella*), but their patterns and diversity became his tools for the foundation of a much larger intellectual endeavour – understanding the biogeography of the Pacific region and the evolution of island faunas. Considerable fieldwork in many parts of the Pacific and bordering areas (much of it in collaboration with Courtenay Smithers or Tim New, and with the cumulative list of countries and islands visited reading like a Pacific region gazetteer) led to preliminary syntheses of geographic patterns and pathways of speciation of selected psocopteran families, based on unrivalled first-hand experience.

Broader entomological interests were reflected in the book 'Insects of Hong Kong' (1982, coauthored with Phylis Hore and Dennis Hill), arising from Ian's 11 years in Hong Kong, and the first comprehensive locally relevant entomology text available for students in south east Asia.

In 1982, with his wife Ann, Ian had his first sight of the archipelago that was to become his passion for the next decade and more. Following his visits in 1982 and 1983, the first of a series of expeditions to Krakatau organised and led by Thornton took place in 1984, designed to elucidate patterns of biotic colonisation of the archipelago, and its relationships with source areas such as western Java, including the Ujung Kulon National Park, and Sumatra. This, and the ensuing six expeditions, forged strong friendships and collaborative links with Indonesian scientists, and provided a valuable formative tropical experience for a number of postgraduate students. In all, more than 60 scientists, from many parts of the world, participated in these intensive field surveys. The emphasis was on the development and successional processes of ecosystems in this unique field laboratory, with Anak Krakatau providing a 'sequence within a sequence' for study. The many research papers from this study include those in two special issues of the *Philosophical Transactions of the Royal Society* (1988,1990), and a special issue of *GeoJournal* (1992) reporting the papers of a symposium held at the Pacific Science Congress in Honolulu in 1991. But the culmination of the study was Ian's 1996 book 'Krakatau: the destruction and reassembly of an island ecosystem' (Harvard University Press), a synthesis of wide significance in the study of island biogeography, and which E.O.Wilson noted 'is likely to become the classic on the subject'.

Ian's interests continued to broaden, with a later expedition to Long Island (Papua New Guinea), leading to a series of papers in a special issue of the *Journal of Biogeography* (2001).

The scholarly endeavours founded from an interest in Psocoptera thus led to wide recognition of Ian Thornton as one of the leading modern biogeographers; his work was recognised by the award of the DSc degree (Leeds, 1984), election to the Fellowship of the Australian Academy of Science (1995), and award of the John Lewis gold medal of the Royal Australasian Geographical Society (1992). A full list of his 140 scientific publications is available from the Department of Zoology, La Trobe University. In addition to his scientific achievements, Ian had strong interest and involvement in fostering Australian/ Indonesian academic cooperation and educational development. In recent years, he was an academic advisor or guest lecturer at Udayana University (Bali) and other Indonesian universities and, as an Indonesian colleague recently expressed it, 'Ian Thornton showed how Australian and Indonesian colleagues could work together'. His death occurred whilst he was returning from Laos, where he was advising the National University on implementation of biological science courses.

Tim NEW

Frederick Harry Uther Baker

Harry Baker was born in Melbourne on 16th September 1900. Both of his parents were interested in natural history. His father, a dentist, made microscope slides of plants and insects and was interested in field geology. His mother had a large shell collection. In this environment he was destined to become a noted naturalist in later life. He was educated at Scotch College, Melbourne and on completing his schooling enrolled as a medical student at the University of Melbourne and graduated MB, BS in the mid 1920's. Because of a shortage of Doctors in Western Australia he decided to relocate and became an intern at Fremantle Hospital between 1924-1925. He left Fremantle to continue an internship at the Kalgoorlie Hospital between 1926-1927. While there he met Eileen Egan who was a trainee nurse at the same hospital and they were married in West Perth in 1929.

Harry had bought a practice in Pinjarra and the newly weds moved there in 1929 and their eldest child Gordon was born there in 1930. Several years later he bought a practice in Fremantle and the family relocated there in the mid-1930's where a daughter and two more sons were born. During the second world war, Harry was one of the few doctors left to attend to the medical needs of a practice and as well he was called on to attend sick sailors, sometimes going out to ships in Gage Roads with the pilot boat. After the war he was still running his practice and in that capacity was regularly engaged in performing minor surgery at the Fremantle Hospital. There he came in contact with William Blackall, the Chief medical officer. Blackall was a brilliant amateur botanist, who made extensive field trips with the Government botanist Charles A. Gardner. Harry described to me lunch time gatherings of the medical staff at the hospital, when every one present would be quizzed by Blackall about their spare time hobbies and what they intended to do with their time on retirement. His mantra was that unless they kept their minds active after retirement they wouldn't last long! Harry decided to renew his early interests and commenced collecting insects, in particular Weevils with an emphasis on the Amycterinae.

I first met Harry when my interest in beetles was kindled in 1954. At that time he was well known in Perth as a beetle collector. I can vividly recall the occasion in late 1958 when I visited him at his home on Canning Highway to deliver a large number of live ground weevils that I had collected for him at Albany. I played a prank on him by pouring out the live beetles from a calico bag onto a table top, from which they proceeded to walk to all quarters of the room after escaping from the top of the table. After I had returned from overseas to Australia in 1962 I often went on day collecting trips with Harry and his wife on my periodic visits to Perth. In 1970, on study leave in Perth I made a long collecting trip with Harry north to Paynes Find and then south through the station country. On that occasion we collected ground weevils crossing the road from the car without getting out. Harry in the passenger seat opened his side door and picked them off the ground as they crossed the road. We drove to Wialki where we spent a week staying with John Arnold and his family and collecting every day. In 1974 Harry flew over to Adelaide from Perth and together with a back-up couple from the University of Adelaide we spent a week on Kangaroo Island collecting. It was on that trip that Harry showed us how to collect *Acantholopus* specimens by finding their recent chewings on the sides of *Xanthorrhoea* fronds and then extracting them from the base by manipulating the fronds.

On most occasions when we were collecting together Harry invariably had an orange in his lunch. At the end of his meal he would produce an implement that was designed to cut a groove in citrus peel and proceed to cut a circular strip out of the orange from one end to the other. He would then lift off the peel in one piece with the sharp end of the implement. I used to watch the process absolutely fascinated. For many years I tried in vain to buy a similar implement but wasn't able to get one in Australia and finally found one in a shop in Aberdeen when I was there in 1977. I've never seen anyone else peel an orange using Harry's technique which should be called the Harry Baker method! I continued to collect weevils for Harry on collecting trips throughout the early 1980's and in return he gave me some of the Buprestids he had collected on his expeditions. The exchanges discontinued when he became unable to work on his specimens and gave his collection to ANIC and the Western Australian Museum.

As well as collecting specimens Harry had a passion for correctly identifying them. He made several trips to the Natural History Museum in London to consult with Sir Guy Marshall and also corresponded with Richard Thompson who replaced Sir Guy as their weevil expert. He also ventured into taxonomy, publishing several papers on Amycterinae. The first a generic review of the genus *Notonophes* Sloane and two papers describing new genera of Amycterinae co-authored with Richard Thompson. He also corresponded with Elwood C. Zimmerman, who eventually began his mammoth project on weevils at ANIC. Some of the specimens used in that study were those that had been collected by Harry.

Harry Baker

I found Harry to be a delightful companion on field trips. He was always good humoured and we never had a disagreement. He always amused me by describing himself as a 'capit-alist.' He was a man devoted to his wife and family and had a strong Christian ethic. His collection of weevils, particularly the Amycterinae section, must be one of the most significant regional collections ever put together. It covers many areas of Western Australia now devastated by poor agricultural practices where there are widespread insect extinctions. Harry lived to the ripe old age of 102 and 9 days. He was pre-deceased by his wife Eileen and is survived by his daughter and three sons.

Shelley BARKER

AES Executive Meeting #407

28th November 2002

The Vice President formally recorded the death of Ian Thornton and Elizabeth (Pat) Marks. Ian was Vice President of the AES from 1975 to 1980 and Pat was a foundation member of the Society.

Electronic access to AJE is now available to members. A unique membership number was provided on each mailing label of the most recent issue.

Invoices for 2003 subscriptions were sent out on 31st October.

Proposal made by A. Austin for changes to the Phil Carne Prize as presented to council meeting and AGM in Fremantle will be circulated to the full Council for its information. A small advertising poster will be made and new details will be prepared for *Myrmecia*.

The number of suspended members is becoming serious and a membership drive is to be initiated. Ideas to make the Society more attractive to current and potential members will be discussed with Regional Councillors. Thoughts include regional activities and activities in conjunction with local societies, a satellite meeting with International Congress of Genetics 2003, alliances with other groups and societies such as parasitologists, targeting of non-member authors in AJE to become members. A brief for a brochure advertising the AES will be prepared.

New members

The Executive approved the following applications for membership of the Society for 2003:

Peter O'Connell, Syngenta Crop Protection, PO Box 249, Wentworthville NSW 2145

Ms Mahmuda Begum, Faculty of Rural Management, The University of Sydney, PO Box 883, ORANGE NSW 2800, postgraduate student (Proposed: G. Gurr, Sec. J. MacDonald)

Resignations

Ros Shepherd;
Derek Maelzer;
Syngenta (Sustaining Associate)

Current address unknown

E. Tsyrlin

New Regional Councillor for South Australia

Glenys Wood has experience in medical diagnostics, biodiversity surveys and urban entomological research. As an entomologist for SARDI she has a broad interest in a range of agricultural pests, Integrated Pest Management and urban insect control. Her current focus is Hymenoptera, in particular, social wasps. During the last four years she has been conducting the project 'Toxic baiting of the European wasp, *Vespula germanica*' in urban South Australia. Her work involves delivering education packages, workshops and insect management protocols, and she is keen to promote industry and community awareness of improved strategies for insect pest management and increasing biodiversity.

PHIL CARNE PRIZE

The Society's Phil Carne Student Prize is aimed at fostering high quality entomological research in young scientists. The name of the prize celebrates contributions made by Phil Carne to the science of entomology and the Australian Entomological Society.

The prize is open to any honours or postgraduate student enrolled in an Australian University, either full-time or part-time, who has not submitted their thesis by the closing date. Entrants do not have to be members of the Australian Entomological Society.

Entries for the prize should be in the form of a scientific paper that deals with research on any entomological topic (or allied group of terrestrial organisms such as mites or spiders). The paper can be in the form of a scientific manuscript ready for publication, a paper that has been accepted for publication, or a paper published since the beginning of the previous year to the closing date, but must result from the student's higher degree studies.

Entries are to be the sole work of the entrant, apart from the normally accepted input of academic supervisors and are to be based on work undertaken while enrolled as a student. They will be judged on their overall scientific merit by a committee of at least three people to be appointed by the Society's President.

Three copies of entries must be submitted to the Secretary of the Society by 31st May 2003 and be accompanied by a completed application form that is available from the Society Secretary.

The prize will be in the form of a certificate and will also include cash remuneration to the value of $300. The winner will also be invited to present their paper at the Society's Annual General Meeting and Scientific Conference, and will receive a maximum of $1,000 towards conference expenses (registration, travel, accommodation) on receipts.

PROMOTING OUR SOCIETY - a few items for consideration.

Here are some ideas for promoting the society and to make better use of the society's logo. Please let me have some feedback!

First, should we produce a few marketable items (this would require capital investment – to be recouped from the sale of the goods). I suggest that we produce either a collared T-shirt, a fleecy shirt, or a brimmed hat/cap, or all three. These should all be produced in a single colour, I suggest navy blue, with a trail of the AES symbol (*Myrmecia*) in gold going over the shoulder (or crown of the hat/cap). These would be available for sale to AES members and anyone from the general public (via the website when this is changed to a normal commercial site). Moreover, in any future media or public appearances on entomological (society) issues, we might encourage members to wear one of these items; also our conferences should in future use the AES logo as standard, with the option of an additional conference logo if desired. We have an excellent Australian insect logo – how can we use it more creatively?

Second, I think we should consider targeting a television program, such as Totally Wild, with a series of entomological issues that have common appeal such as – the noise makers (cicadas, crickets, katydids, whistling moths etc); the destructors (any of the plant chewers, timber destroying insects etc..); the gatherers; the decorators; the homemakers etc.... This show is targeted at children when an interest in entomology can be initiated – for this type of thing to work we would need to tap into the skills of the society members with some effort for gathering and presenting material.

Third, I think it would be useful to update the directory of entomologists of the South West Pacific. Issues of privacy have been raised, but I believe that we could deal with these by giving members the option on our Society membership renewal form to opt out of inclusion. Each new membership form could include a similar clause, whereby new members could refuse inclusion. The aim would be to have the update completed and available for the ICE in 2004.

Glynn MAYNARD,
AES Promotions Officer
C/- Office of the Chief Plant Protection Officer
Agriculture Fisheries and Forestry Australia
glynn.maynard@affa.gov.au

REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

ABRS

ABRS ended 2002 on a high note, with publication of two volumes in the *Zoological Catalogue of Australia* series, those familiar books in pale blue and shiny dark covers! *Coleoptera: Buprestoidea* (Vol. 29.5), authored by Chuck Bellamy, was released on 23 December last year. This followed publication in late October of *Hemiptera: Heteroptera: Pentatomomorpha* (Volume 27.3B), the second of the Heteroptera volumes by Gerry Cassis and Gordon Gross. These are the last two hard copy volumes ABRS will publish. Henceforth, all the Insect and Arachnid checklists will be made available online

at www.ea.gov.au/biodiversity/abrs/abif/fauna/afd/. Further groups will be added to the database shortly. ABRS Director of the past two years, **Ian Cresswell**, has accepted a promotion and leaves ABRS for the post of Assistant Secretary, Marine Conservation in Environment Australia. He will be sorely missed, having guided ABRS through difficult times, successfully restructuring the organization following severe cuts in funding. **Alice Wells** will be Acting Director for 3 months, from late January to late April. A warm welcome to a new staff member, **Muhammed Iqbal**, whose expertise has already proved a major asset.

CSIRO - ANIC

After a planned visit to Carnarvon National Park in Queensland had to be abandoned when the park was burnt out, ANIC dipterists **Christine Lambkin**, **Jacquie Recsei**, **David Yeates** and **Noel Starick** turned to north-west Victoria. The target taxon was Therevidae, but the team weren't about to reject other flies that came along. Most collecting was by Malaise traps, of which 23 were set. National parks visited were Murray-Sunset, Wyperfeld, Little Desert and Mt Arapiles, as well as Big Desert State Forest. Conditions were very hot (40C+) but the team bagged a lot of therevids, especially in the Little Desert where the heath was in full flower. Murray-Sunset had lower numbers, but good diversity. Unfortunately, Christine failed to find any *Ectinorhynchus*, her current baby. Besides catching therevids, the dipterists made observations on mating behaviour of *Comptosia* (Bombyliidae) and caught some good Pyrgotidae and even sun moths (*Synemon*, Castniidae). The foursome covered 6,500km in total and returned to hear that fires had moved into Victoria behind them! What is it about ANIC Diptera section and fires?

A major ANIC field trip to the Pilbara is set for autumn. **Tom Weir** and **Kim Pullen** will reconnoitre collecting sites in March, with the major assault to follow in April-May.

In Hymenoptera, **John La Salle** and **Nicole Squires** are working on a Lucid key to the parasites of pest *Liriomyza* (Agromyzidae) leaf-miners in Indonesia and south-east Asia. Unfortunately, the timetable for presentation of the key has received a setback with travel restrictions to Indonesia. **Dino Reina** of Italy has recently joined the section as a post-doc.

Frances Fitzgibbon has joined the Lepidoptera section to replace **Ted Edwards**. **Robert Hoare**, now with Landcare Research New Zealand, visited for a week in January to work on Australian Depressariidae.

Thripsbusters meet in Canberra

Disna Gunawardana, Masami Masumoto, Laurence Mound, Glynn Maynard, Graeme Page Shelley George

A memorial issue of *Invertebrate Systematics*, devoted to Lepidoptera, will be published to honour **Ebbe Nielsen**, late lepidopterist and Head of ANIC.
John Lawrence returns to Canberra for 3 weeks in January and February to curate and database the collection of beetle grubs. John, a world expert on beetle larvae (and adults), was instrumental in building up this collection. Current curator **Adam Slipinski** is clearing his old loans to make way for Coccinellidae, the subject of a major new project.
In ANIC administration, **Kim Pullen** replaces **Graham Crompton** as Collections Manager. Graham has taken over responsibility for the Division's buildings and infrastructure.
The thrips room has been a hive of activity. **Masami Masumoto** from the Yokohama Quarantine station worked here for six weeks, preparing identification keys with **Laurence Mound** to Australian species in two major genera of Thripidae. Whilst he was here, three entomologists from Auckland, New Zealand, **Disna Gunawardana**, **Graeme Page**, and **Sherley George**, also came for a weeks training, and the day he went home three entomologists from Yanco arrived for three days of intensive learning about thrips, **Andrew Creek**, **Jianhua Mo**, and **Sandra McDougall**. It is good to know that we now have a few more people around who can distinguish pest thrips from the many other species that drop into crops from time to time.

Kim PULLEN
Regional Councillor

NEW SOUTH WALES

NSW Agriculture, Orange Agricultural Institute Agricultural Scientific Collections Unit
Christine McKenzie has recently joined the staff at OAI to continue development of molecular diagnostics for fruit flies, in conjunction with **Peter Gillespie** and **Deb Hailstones** (EMAI, Camden). Christine comes to OAI from LaTrobe University in Bendigo where she was working on a PhD developing molecular techniques for identifying particular kinds of bacteria.

Deciduous Fruit Entomology.
Mark Whalon, from the Pesticide Alternatives Lab, Michigan State University, met with **David Williams** (DNRE Shepparton) and **Graham Thwaite** in Canberra in early December. Mark has previously visited Graham at OAI in the mid '90s, and present and future collaborative projects were discussed at the recent Canberra meeting.
In mid-January, Graham Thwaite travelled to the Riverland in South Australia and then returned via Griffith and Young in New South Wales. The purpose for the excursion was to talk to prune growers in the three districts about their industry's project in developing IPDM strategies. A workshop and field trip was part of the afternoon's activities. Several people from the OAI helped present the information including **Danuta Knihinicki** from the ASCU will present information on "prune" mites.

University of Sydney, Orange
Geoff Gurr visited the USA for two weeks in November to visit **Paul Jepson** at Oregon State University in Corvallis before travelling south to attend the Entomological Society of America conference held in 17-20 November at Fort Lauderdale, Florida. Geoff presented several papers at the ESA conference and reports that it was a great meeting!
Lynn Fletcher returned to the US to continue her PhD studies at Cornell University in late November, having undertaken field research on pergid communication and behaviour at Orange. Students and staff were sad to farewell Lynn and everyone looks forward to a visit if she returns to Australia next winter. Unfortunately Lynn has returned home to Cornell to endure another winter and it would appear that this year it is really cold in northeastern USA!
The "Entomologists of Orange Christmas Lunch" was held on 12th December at the Metropolitan Hotel. Twenty entomologists from OAI, USO, and NSW Agriculture Head Office attended the lunch and the event was once again a great success allowing the "Buggers" of Orange to share some Christmas cheer!

John MACDONALD
Regional Councillor

QUEENSLAND – NORTH

QDPI- Cairns
Jane Royer participated in an eight-day plant health survey of Cape York coast and islands in December. The survey was made possible thanks to space provided on HMAS Tarrakan. AQIS boat AQS Wodyetia was towed behind and unleashed to allow access to the various sites. No new exotics were found though a new detection of the spreading spiralling whitefly (*Aleurodicus dispersus*) was made on Hicks Island (same latitude as Mapoon).

Jane ROYER

Qld Health - Cairns
Scott Ritchie from the Tropical Public Health Unit has been developing new methods for monitoring for Japanese Encephalitis using a stand-alone mosquito

trap known as the Mosquito Magnet that is powered by propane. Trapped mosquitoes are then PCR'd for the Japanese Encephalitis virus. This year they will be setting up trial traps in collaboration with AQIS in Torres Straits, with **Paul Zborowski** helping with the mozzie identifications.
Scott and co. have also developed a sticky ovitrap, which has proven successful in monitoring for container breeding mossies such as dengue mosquitoes. Some ovitrap monitoring for exotic container breeding mossies has been carried out at ports in conjunction with AQIS and discussion for collaboration with NZ Ministry of Health for work at their ports.

Qdpi - Emerald
There has been no shortage of insect problems in the central Queensland interior this summer. The QDPI field crops ento team in Emerald (**Richard Sequeira**, **Andrew Moore**, **Alison Shields** and **Ali-Nur Duale**) has been blessed with silverleaf whitefly, Helicoverpa, jassids, mirids, aphids.....we've stopped counting!
Helicoverpa pest management using trap crops has been on the research agenda for several years now. The summer of 2001/02 brought us our first silverleaf whitefly (SLW) outbreak in the central highlands. Spring 2002 indicators of SLW abundance were pointing to another, bigger, outbreak this summer. CRDC and GRDC were quick to provide contingency funding for research on cross-commodity, area-wide population dynamics of SLW. The team has been using GIS technology to map changes in the spatial and temporal distribution of SLW over large parts of the cropping area around Emerald. So far many cotton crops have been treated with IGRs for SLW control but the expected outbreak has not materialised. SLW populations are being decimated by hoards of native parasitic wasps. Its fun to be an entomologist in Emerald!!!
Peter Ellsworth, Maricopa Agricultural Centre, University of Arizona, an expert on whitefly management in cotton, visited the Australian cotton belt in early December. He spent a week with us in Emerald, before going on to Theodore, Dalby and Narrabri.

Richard SEQUEIRA

Scientific Advisory Services - Tully
Richard Piper reports that things have been pretty quiet " down his way" since the recent rainfalls have eased the problems of strawberry mite, *Tetranychus lambi* in the banana plantations, which necessitated weekly monitoring during the exceptionally dry conditions previously experienced. The banana industry is eagerly awaiting the final IRA from BioSecurity Australia on importation of bananas from the Philippines.

Richard PIPER

QDPI – South Johnstone
QDPI South Johnstone staff are currently busy with a number of projects. One of these, Management Options for banana bunch pests, involves looking at alternative chemistry, biopesticides and more IPM friendly techniques to control bunch pests in bananas. A second project, Rambutan IPM Development, looks at the development of IPM in rambutan and developing monitoring strategies for growers as well as evaluating and registering IPM friendly insecticides to control pests of rambutan. The group is also assisting chemical companies with product registration and assisting Harry Fay (QDPI, Mareeba) with an IPM project in Papaya to control 2 spotted mites and fruit spotting bugs.
David Astridge recently visited **Caroline Hauxwell** head of QDPI's biopesticides unit at Indooroopilly to discuss a joint research project in bananas, and **Roger Broadley** in Nambour, to set up ladyfinger banana trials. David also recently caught up with **Dan Smith** and **Chris Freebairn** at Maroochy Research Station.

David ASTRIDGE

Landcare- Charters Towers
For those of you who are catching up, society member, **Marie Vitelli**, (formerly of Tropical Weeds Research Centre, Charters Towers) has, for the past two years been working as a Landcare co- coordinator with the Dalrymple Landcare Committee in north Queensland. She is still enjoying "life after Entomology" helping 18 Landcare groups in the shire and intends to stay with Landcare until 2004 when a return to weed biological control in envisaged.

Marie VITELLI

QDPI – Ayr
In this dry tropical area Western Flower Thrips was detected late in 2002. Losses were reported in capsicum crops as well as hydroponic lettuce around the Townsville district. **John Brown** attended a meeting in Sydney with the WFT Management group from all states and HAL to address future directions to manage this pest. **Vic Edge** was invited to the meeting by HAL to offer direction. **Marilyn Steiner** from the NSW Dept of Agric. visited the Ayr district to discuss the development of a project on the use of Montdorensis mites as predators of WFT. Discussions with **Sonya Broughton** WA Dept of Agric have also taken place to look at developing a project to manage WFT. The main interest in WFT is to fit the control/management options into the IPM systems developed for capsicum and eggplant crops in this area.

John BROWN

QDPI- Mareeba

In December, **Bruno Pinese**, Senior Entomologist Queensland Horticulture Institute, visited research institutions at Laloki (Port Moresby) and Keravat (Rabaul) as a first step towards developing a collaborative research project on the red-banded mango caterpillar, *Deanolis sublimbalis,* and a pyralid pest of mango. This serious fruit pest has recently been detected on mango at the tip of Cape York. This has led to the development of an ACIAR project which aims to increase our limited knowledge of its biology, alternative hosts and control options as well as determining its sex pheromone for future monitoring programs in the Torres Strait and Cape York. The information gathered will make us more prepared should it enter our commercial mango growing areas in northern Australia and assist PNG by providing research infrastructure and applied control options.

Geoff Monteith from the QM Brisbane made a quick trip to nQld [following three weeks in New Caledonia] to service a series of flight intercept traps in the Mt Surprise area. He also visited **Ross Storey** in Mareeba for further discussions on a joint paper describing new Australian species of *Onthophagus*. **Penny Edwards** made a quick trip to Wrotham Park in December to release a colony of the dung beetle *Copris elphenor*. Penny has been supervising the NHT Dung Beetle Survey project in Qld.

AQIS/NAQS – Mareeba

Kylie Anderson attended the exotic ant symposia at the Australian Ecological Society conference in Cairns in December, where she caught up with **Kirsti Abbott** from Christmas Island, and various other colleagues. Kylie has also been busy tidying up loose ends in the NAQS Mareeba laboratory, readying for her impending year of maternity leave, which begins in late February.

In the lead-in to the start of the wet season (we hope we get a wet season this year!) **Judy Grimshaw** led a short survey to parts of the Torres Strait in November. Whilst on Thursday Island, Judy and **Kerrie Huxham** provided training to outer island and Thursday Island based operational staff. This covered monitoring, collecting, baitspray and OH&S concerns.

As Regional Councillors we much appreciate the efforts of our *Myrmecia* contributors, but next issue we plan to seek copy from members operating in the

Kerrie Huxham, Ron Enosa, Abai Bann and Clayford Lui discuss baitspray training techniques, Thursday Island

smaller non- mainstream areas of our discipline e.g. amateurs, hobby entomologists, those operating in tourism, businesses etc.

Kerrie HUXHAM & Jane ROYER

QUEENSLAND – SOUTH

CSIRO

Visitors from Finland, Netherlands, NZ, USA, S Africa and several States will be attending the CSIRO Modelling Workshops for training on the use of DYMEX and CLIMEX software during the latter half of January. The workshops are for one week.

Bob SUTHERST

Queensland Department of Primary Industries

A meeting to review the situation of thrips in vegetable crops was held in Brisbane as part of the Horticulture Australia melon thrips project. **John Donaldson, Iain Kay**, **Frank Page, Bronwyn Walsh** joined **Laurence Mound** and **Graham Young** to review the project's activities as well as hear from the virologists and wider issue of WFT in fruit trees. On the second day we all enjoyed a detour from agricultural entomology to hear a presentation by Laurence on the *Acacia* thrips he has been investigating.

Congratulations to **John Duff** who has been appointed as entomologist with QDPI Gatton, working with IPM in green beans, soil insects in potatoes and IPDM in lettuce for another 3 years. He will also be working with the taxonomy unit at Indooroopilly two days per week while **Marlene Elson-Harris** works with the Fire-ants unit.

Bronwyn WALSH

Queensland Department of Natural Resources and Mines

After two years at the University of Queensland, **Dhileepan** returned back to QDNR&M and is currently based at AFRS working on the biological control of Cat's claw creeper, Madeira vine and parthenium.

Dhileepan was on holiday in India from 21st Dec to 11th Jan. In India **Dhileepan** visited the Gill Research Centre (The University of Madras), The French Institute (Pondicherry), National Research Centre for Banana (Trichy) and Tamil Nadu State Social Forestry Centre (Perambalur). He also visited sites with prickly acacia infestations near Chennai and Perambalur areas. Other (educational) sites visited include Mahaballipuram (historic shore temples) and Srirangam (8th century temple).

Dhileepan and **Sathyamoorthy Raghu** obtained funding from QDNR&M to study the incidence and intensity of seed predation by bruchid *Acanthoscelides macropthalmus* in leucaena in southeast Queensland.

Michael Day has taken over the role of Leader of the ACIAR funded Biological Control of Chromolaena in PNG Project following the retirement of **Graham Donnelly**. Michael will be travelling to PNG in February to become familiar with the project and to check and monitor release sites of *Cecidochares connexa* and *Pareuchaetes pseudoinsulata*.

Michael DAY

SOUTH AUSTRALIA

Muhammed Iqbal has moved from the University of Adelaide to Canberra where he is working on a series of projects dealing with biological databases and information delivery. His primary role is to support ABRS Participatory Program. He is also involved with the invertebrate part of the Australian Biological Information Facility (ABIF), and is managing the Species Bank project which is aimed at providing information to a wider community about Australian animals and plant species of general interest. If you want more information about Species Bank, contact him at (muhammad.iqbal@ea.gov.au).

Nancy Schellhorn (PI) and **Glenys Wood** at SARDI with **Tish Silberbauer** at UNE will begin a project on the Northern Adelaide Plains looking at integrating local-native vegetation for natural resource management with weed and insect management. There are critical natural resource issues facing the NAP but landcare has been slow to develop because of uncertainty about the role that native plants play in harbouring insect pests and diseases that may threaten the horticulture industry. The aim is to create the opportunity to plan and develop the landscape in an ecologically sustainable way, while simultaneously benefiting primary industries.

Greg Baker and **Tony Burfield** visited **Marilyn Steiner** and **Stephen Goodwin** at the Gosford Research Station in mid November to learn of recent advances with the use of *Typhlodromips montdorensis* for greenhouse biocontrol. **Greg** also attended a *Phylloxera* workshop presented in early December by **Kevin Powell, Sarah Brown** and **Karen Herbert** of the Rutherglen Research Institute, DNRE.

Cathy Smallridge (fruit fly entomologist) went on maternity leave in November and her shoes have been temporarily filled by **Vanessa Bosco** for up to 12 months. Vanessa is a local graduate having done an honours degree in insect behaviour with Mike Keller in 2000. Vanessa and **Dennis Hopkins** visited **Bill Woods** and his fruit fly team in Perth in early De-

cember to attend a debrief of the sterile medfly research program conducted over the last 18 months and to plan future experiments.

Chris Krawec has moved from the SARDI entomology group at the Waite Institute to the Livestock Systems Alliance at the Roseworthy campus to work on fly control in poultry facilities with **Peter James.**

Good to see young entomologists like **Mymy Huynh** working with AQIS. She tells me that recently a member of the public rang about some borer activity in a giraffe they had bought in South Africa 12 months ago. It was opened and live borers of the species *Bostrychoplites cornutus* (from parts of Africa and Arabia) were discovered inside. She says it not often that AQIS SA are able to get such a definitive answer that we have intercepted something so exotic.

Bob Van Steenwyk from the University of California, Berkley, an Extension Entomologist, Pest Management of deciduous fruit, nut and vine crops will be visiting SARDI for the first five months of this year. He will be working with **Nancy Schellhorn** on Diamond back moth and beneficial insect movement using trace elements and resin based dyes.

Lynette Queale has been working with Department of Environment trying to raise insect awareness within their biological surveys group. Their surveys now include lists and ecological information on insects and spiders collected over several years in a range of habitats from these regions. The Flinders Ranges report is already published and reports of surveys from the Pitlands, Southern Mount Lofty ranges and the South-East are being finalized.

Andy Austin has been on study leave for the last three months, and spent time in the US at the Entomological Society of America meeting during December where he presented the latest findings from the Adelaide group on the evolution of mitochondrial genome organisation in the parasitic wasps, and helping to promote the Brisbane International Congress. Then to Jim Whitfield's lab at the University of Illinois to work on a joint project on braconids, and to the UK to catch up with colleagues at the BM, particularly **Ian Gauld** and **John Noyes** to discuss wasps systematics. Andy also has three new honors students in his lab at the University of Adelaide, School of Earth and Environmental Sciences. They are **Tom Campbell** - Biology of isopods inhabiting the Mound Springs of South Australia; **Sally Maxwell** – Arthropod biodiversity in temperate native grasslands of South Australia, and **Kate Muirhead** – Diversity and structure of parasitoid-host communities on a Murray River floodplain. **Ma Jun** joined **Mike Keller's** lab in October from Hunan Agricultural University in China. During his one year visit, he will develop techniques to detect the DNA of the diamondback moth in the guts of predators.

We are saddened by the recent death of **David Morgan**. David was recruited to the Department of Entomology at the Waite Agricultural Research Institute as a Lecturer in 1958 and was promoted to Senior Lecturer in 1961. As a Forest Entomologist he had research interests in the pheromone attractants of the woodwasp, *Sirex noctilio*, the ecology of the loopers, *Chlenias* spp. and pheromone trapping and biological control of the bark beetle, *Ips grandicollis* on *Pinus radiata*; and, in the ecology of the gum leaf skeletoniser, *Uraba lugens* and the population dynamics of the Psylloidea, particularly of the lerp insects, *Cardiaspina albitextura* and *C. densitexta* on *Eucalyptus*. His interests in the biology and taxonomy of psyllids culminated in the publication in 1984 of the book, "Psylloidea of South Australia". David retired from the University in February 1984, but maintained his association as an Honorary Visiting Research Fellow until 1985. Thankfully he enjoyed good health throughout his retirement. David is survived by his wife Betty, five children and twelve grandchildren.

The sole South Australian representatives at the Fifth International Congress of Dipterology in Brisbane were **Bob Lavigne** (Asilidae) and **Gary Taylor** (Fergusoninidae). Gary presented his research on the taxonomy and host associations of the complex of *Melaleuca*-inhabiting gall flies currently being investigated as potential biological control agents of *Melaleuca* in Florida.

Glenys WOOD

TASMANIA

University of Tasmania
School of Ag. Science/CRC for Sustainable Production Forestry

The CRC for Sustainable Production Forestry was not successful in its new bid for funding from 2004 onwards. Just in what form forest entomology research will continue beyond 2003 is at this early point in time difficult to envisage. The major focus of this season's forestry research has been a collaborative project with Forestry Tasmania (see below). On the student front **Helen Nahrung's** thesis submission is imminent, whilst **Luke Rapley** and **Anthony Rice** have had successful field seasons. Outside of plantations **Ann Gaffney** has spent many hours standing in the field this summer watching fly visitations to carrot flowers. A three week visit in January by **Diana Percy** (CSIRO Entomology) was principally to look at research opportunities with psyllids on some of **Brad Potts'** plant hybrid zones. Diana gave a semi-

nar on psyllids and acoustics to an appreciative audience; she spent many hours isolated in a corner of the quietest laboratory location we could find! Finally, the 2003 Hobart entomology conference organising committee has completed most of the details and anticipate registration information and a web site to be up shortly.

Monty Wood (Canadian National Collection, Agriculture Canada, Ottawa) visited for several days to spend some time collecting tachinid flies with Anthony Rice.

Thomas Ranius (Swedish University of Agricultural Science) also visited for three weeks. His research in Sweden was on the metapopulation dynamics of two indicator species (a scarabaeid and a pseudoscorpion) that live in mature oak trees in pasture woodlands. He has been helping **Simon Grove** and **Marie Yee** with their own dead wood research. **Kate Harrison** recently joined the dead wood research group, starting her PhD with Simon Grove and Caroline Mohammed. She will be examining insects associated with mature timber habitats.

People interested in the eucalypt leaf beetle, *Chrysophtharta agricola*, came together recently at the CRC in Hobart to share research findings and discuss future directions. Lively discussion and input from industry partners and researchers were a feature of the day. The meeting was organised by **Geoff Allen** (Resource Protection), and included presentations by Helen Nahrung, Anthony Rice, Luke Rapley, Mamoru Matsuki, Jane Elek, Mamoru Matsuki and Kate O'Brien.

Forestry Tasmania (FT)

Jane Elek, **Geoff Allen** and **Mamoru Matsuki** (all members of the CRC-SPF) have been busy over the summer collaborating in a comparison of the recolonisation of insects in eucalypt plantations following spraying with cypermethrin or spinosad insecticides in Tasmania and WA (MM). Jane has been awarded an Australian Acadamy of Science travel grant to learn more about forest insect pest management in USA and Canada so will be visiting colleagues there in May - June 2003 for their summer season.

Department of Primary Industries, Water and Environment

This season has seen record outbreaks of diamondback moth and armyworms, but generally Tasmania has escaped the worst of nation-wide drought conditions - all in all a good season. **Owen Seeman** continues his meddling with methyl bromide and cherries, and also his extracurricular pursuits of acarine diversity. He is currently preparing a manuscript with **Chris Palmer** (ANU) on the mite parasites associated with the wingless scorpion-fly *Apteropanorpa*.

Other entomological activities

Ted Martin has been adding a substantial amount of life history photos to his collection. As part of this project, he has been combining original descriptions with type specimens (and other) photographs of Tasmanian species of Lepidoptera as PDF pages.

Owen SEEMAN

VICTORIA

Department of Primary Industries
Institute of Sustainable Irrigated Agriculture

The first bit of news is our name change from the Department of Natural Resources and Environment into the Department of Primary Industries

Mark Whalon (MSU) has become a regular visitor. He spent the first week of December interstate with **Dave Williams**. They visited Canberra to meet with the NRA for discussions about organic pesticides, caught up with ex–entomologist **Ian Barass** and held discussions with **Graham Thwaite** regarding resistance management and fruit pests. They then flew off to Stanthorpe to discuss organics, WFT and other fruit issues with **Peter Nimmo**, **Peter Stevens** and **Frank Paige**. Mark intends to be back in late February and early March.

Western Flower Thrips (WFT) was found in the Goulburn Valley for the first time, causing pansy spots on pome fruit, but since then has been found on a range of crops across the valley between Cobram, Kyabram and Murchason. **Alison Medhurst** (IHD Knoxfield) organised a workshop on area wide resistance management. A special thanks go to **Peter Nimmo** (QDPI) **Paul James** (PIRSA), **Dominic Cavallaro** (consultant SA), **Tony Burfield** (SARDI) and **Grant Herron** (NSW Agriculture), **Mark Whalon** (Michigan State University) and **Alison Medhust** (DPI Victoria) who visited the region last month to help with a strategic response to WFT.

Alex IL'ichev and **Chris Sheehan** are flat out with shoot tip and fruit damage assessments in the sprayable pheromone for OFM mating disruption trials.

Mofakhar Hossain has returned from USA after working for three months with **Robert Barlett** and his group. While in the USA he identified the Synthetic coattractants and tested in a wind tunnel to understand how *Carpophilus* responds to these coattractant. Field trials have been established to evaluate how the syntheric coattractants perform in a field situation.

Institute for Horticultural Development
Nancy Endersby and **Peter Ridland** attended DBM 2002: International Symposium Improving Biocontrol of *Plutella xylostella*, held in Montpellier, France, 21 - 24 October 2002. They also visited various colleagues at Central Science Laboratory, York; HRI, Wellesbourne and Imperial College, Silwood Park, UK. While they were away, *Plutella* took advantage of the hot, dry weather to cause major problems in canola in NSW and southern Australia and in forage turnips in Victoria, keeping **Jingye Zhang** busy in the laboratory testing populations for resistance to synthetic pyrethroid insecticides. Nancy along with **Steve McKechnie**, **Brad Rundle** and **Simon Baxter** visited turnip crops near Warrnambool in January and represented CESAR (Centre for Environmental and Adaptation Research) at a meeting with dairy industry representatives hosted by Les Toohey (DPI, Hamilton) to initiate plans for research on *Plutella* in forage *Brassica* crops.

Cathy MANSFIELD

WESTERN AUSTRALIA

CSIRO Entomology
Jim Cullen visited the WA laboratories as part of his "farewell" tour as Chief of the Division of Entomology. We are looking forward to **Joanne Daly's** first tour of WA in her new position as Chief. Congratulations to **James Ridsdill-Smith**, who was recently elected a fellow of the Australian Academy of Technological Sciences and Engineering.
CSIRO Entomology was well-represented at the First Australian *Medicago truncatula* workshop on Rottnest Island in November. **Owain Edwards, John Klingler,** and new postdocs **Sheena Cotter** and **Yasmin Cardoza** were all in attendance. Visiting scientist **Steve Clement** (USDA-ARS) has returned to Washington State after spending 10 weeks in Perth investigating *Helicoverpa* resistance in wild chickpea lines. **James Ridsdill-Smith** travelled to ICRISAT in India in mid-January 2003 to visit **Hari Sharma**, another collaborator studying *Helicoverpa* resistance in chickpeas.
John Matthiessen and **Tara Simmul** (Serve-Ag WA) completed the first assessment of their *Heteronyx* project in forestry and were pleased to find that two treatments were particularly effective for the control of this pest. A field day will be held to pass this information to the forestry industry.

WA Museum
Visitors to the Entomology Section late in 2002 included **Marco Bologna** (University of Rome) and **John Pinto** (University of California), interested in meloid beetles and trichogrammatid wasps, respectively. They were accompanied by some students from the UC and undertook collecting in the south of the State. **Michael Batley** from Sydney visited **Terry Houston** briefly in late November to discuss a mutual interest in bees. Terry continued his study of sandgroper biology, and was excited to at last discover laid eggs, thanks to the help of a Perth homeowner whose back garden seemed to be a haven for the insects.

Agriculture Western Australia
The spring season in the vegetable growing areas of Carabooda and Wanneroo in the Northern Metropolitan area of Perth saw an alarming and unprecedented amount of damage caused by western flower thrips and tomato spotted wilt virus in tomato, capsicum and lettuce. Many crops were lost on a scale not seen previously. An emergency meeting was organised by the WA Department of Agriculture to assist growers in dealing with the problem. These included presentations by **Brenda Coutts** and **Roger Jones** (plant virologist) and **Sonya Broughton** (entomologist). The meeting was well attended with 84 participants (68 growers, 8 rural suppliers, 2 market agents and 6 researchers).
Sonya Broughton and **David Cousins** have also been sampling table grapes for thrips. Thrips damage table grapes, particularly the variety Red Globe, by ovipositing in the developing berry. Secondary infection by pathogens can lead to berry rot, resulting in crop loss. Due to apparent insecticide failure in the 2001/02 season, growers suspected that WFT was involved. Preliminary research funded by the WA Department of Agriculture and the Agriculture Protection Commission (Table Grapes) has shown that Plague Thrips (*T. imaginis*), Tomato Thrips (*Frankliniella schultzei*) and Onion thrips (*Thrips tabaci*) are present in Red Globe. To date, no WFT has been found.
Rob Emery and his Grain Insect Resistance Laboratory group were pleased to host a visit by Queensland Department of Primary Industries, Food Protection Team; **Manoj Nayak**, **Hervoika Pavic**, **Valerie Byrne** and **Phillip Taylor**, during October as part of GRDC supported National Resistance Monitoring and Management Program for stored grain. The visit provided the opportunity for laboratory staff to exchange knowledge and information on laboratory methodologies such as resistance monitoring, fumigation procedures etc. We also took time out to inspect field trials on farm storages at York, Cooperative Bulk Handling Metro Grain Centre at Midland,

"Dolly Parton" Grain Stores, Goomalling

the export grain terminal and Grain Storage Museum at Kwinana as well the appropriately-named "Dolly Parton' grain stores at Goomalling .

Curtin University

Karl Brennan and **Jonathan Majer** attended the recent IndoPacific Ecosystem Health Conference and waived the banner for arthropods by presenting papers on ways in which they can act as indicators of ecosystem health and integrity. **Brian Heterick** has left Curtin to take up a post-doctoral fellowship at the California Academy of Science in San Francisco. Brian intends to work on a revision of *Monomorium* ants from Madagascar. Congratulations to **Karl Brennan** and **Erich Volschenk**, who have both been awarded their PhD's. Their vacant spaces have rapidly been filled by **Aaron Gove**, who has returned from Xalapa in Mexico, where he has been working on the impact of forest fragmentation on the ant communities, and by **Gamal Orabi**, who has just arrived from Egypt. Gamal will be building on **Lubomir Bisevac's** PhD work, in which the possibility of using invertebrates in post-mining Completion Criteria, is being explored.

Tara SIMMUL

PAPUA NEW GUINEA

Happy New Year 2003 to you all!

A net-work of entomologists and plant protection specialists is being developed to exchange views on topics of general interest in PNG. I would appreciate other interested people in PNG registering their interests with me to participate in this forum. There are plans to hold the next PNG plant protection meeting sometime later on in the year at Rabaul. Please, keep this in mind and also make provisions so that you can attend.

Vudal University, Rabaul

Crop loss assessment training was conducted in early November by Professor **Terry Price** for research scientists in entomology and plant pathology. The intensive one week course was attended by staff from the National Agricultural Research Institute, PNG Cocoa and Coconut Research Institute, Ramu Sugar and Vudal University with funding from NARI and Secretariat of the Pacific Community (SPC) Plant Protection Service.

National Agricultural Research Institute

The construction of the new NARI office complex, to house the head-quarters, is now well in progress at Bubia. A number of visitors passed through NARI in the last three months: these included **Richard Milner**, CSIRO Canberra, **Moti Lal**, Fiji, **NakabutaTeuriaria**, Kiribati, **David Tau** Vanuatu, **Maclean Vaqalo**, Solomon Islands, **Mick Lloyd**, **Sada Lal**, **Stephen Hazelman** , SPC Plant Protection Service, Fiji visited in relation to the ACIAR Taro Beetle Project review

meeting. The participants also visited NARI (Keravat) and PNGCCRI (Tavilo) establishments in East New Britain.

Roy Masamdu, **David Putulan** and **Mark Ero** conducted a preliminary survey of *Oribius* weevils in the Eastern Highlands in December. Other highland areas will be covered later. **James McWilliam** from Canberra and **Solomon Balagawi** of Griffith University visited NARI to discuss further work on fruit flies in PNG. **Bruce Pinochee** (QDPI, Brisbane) and **Klara Beresnikof** (ACIAR, Canberra) visited and held discussions with **Stefan Krull** (NARI), **David Tenakanai**, **Majorie Kame** (NAQIA) and **Fred Dori** (DAL) on further collaborative work on the red banded mango caterpillar in PNG. They visited NARI and NAQIA establishments in Port Moresby and Rabaul in early December.

National Agricultural Quarantine Authority

David Tanakanai has just returned following a PRA visit to China looking at various aspects of quarantine. David and **Marjorie Kame** also took part in a survey of citrus pests in Sandaun province. The psyllid, *Diaphorina citri* vector of citrus vascular disease commonly known as citrus greening was recorded for the first time in PNG. The psyllid is present across the border at Jayapura, West Papua.

Coffee Research Institute

Coffee is a major cash crop in the Highlands of PNG. Coffee green scale (*Coccus celatus* and *C. viridis* complex) is one of the main pests of coffee. **Nelson Simbiken** is now able to work on developing IPM strategies for the green scales on coffee. The European Union recently approve a 3-year funding of trials to evaluate a number of insecticides and the introduction and establishment of encyrtid parasitoids, *Metaphycus stanleyi* and *Diversinervus straimineus*. **Dan Smith** (QDPI) is supplying *D. straimineus* while **Robert Luck** (University of California) will assist with *M. stanleyi.*

Cocoa Coconut Research Institute

Titus Kakul has been modifying various trap designs to catch adults of rhinocerus beetles in coconuts. He seems to have struck luck with a home-grown design know as 'Titus bucket trap' and can also effectively drown the insects in soapy water. Preliminary results in evaluating attractants for Scapanes beetles showed split sugarcane stalks may be used with other synthetic attractants. This method can be used for pest monitoring and/or later developed into a means of inoculating natural populations with entomo-pathogens for control purposes.

Ramu Sugar

Can any one suggest how we can minimise 'recreational burning' in the Markham valley? It is proving impossible to establish the gall fly against the siam weed, now posing a threat in the valley. **Kaile Korowi** has been developing a number of 'conservation' sites for the agent but still no break through yet. **Lastus Kuniata** has been working on sorting out IPM strategies for ear-wig and jassid pests of peanuts. Preliminary results on jassid control are promising. **Gou Rauka** attended the short course on plant protection at Vudal early in November.

Lastus KUNIATA, PNG Councillor

NOTICES

A Guide to the Genera of Beetles of South Australia, Part 8. Chrysomeloidea: Chrysomelidae. By E.G. Matthews & C.A.M. Reid. 64 pp, 76 figs. Price $12.95 plus postage. Order from the South Australian Museum Shop, North Terrace, Adelaide, SA 5000: sam.shop@saugov.sa.gov.au or through the Museum's web site: www.samuseum.sa.gov.au. This latest volume in the series follows the format of previous ones in using profusely illustrated pictorial keys to the 70 genera, and there is also a key to the subfamilies of externally feeding larvae. Each genus is illustrated by at least one habitus drawing or photograph. There are sections on collecting and rearing chrysomelids, and all known food plants are listed. Besides SA the area covered is southern WA, western Vic, western NSW, south-western Qld and the south of the NT.

***Liriomyza* network**. R. C. Joshi is involved in *Liriomyza* spp. management, research, training, and extension efforts in the Philippines. He wishes to draw to the attention of anyone interested in *Liriomyza* spp. the following web site: http://www.potatonews.com/leafminers/leafminers.asp. He would like to establish contact with other workers interested in problems associated with *Liriomyza* spp.

Dr. R. C. Joshi, C/o Mrs. Elaine E. Joshi, Librarian, PhilRice, Maligaya, Muñoz Science City, Nueva Ecija-3119. PHILIPPINES. E-mail: rcjoshi@philrice.gov.ph; joshiravi@hotmail.com; joshiraviph@yahoo.com.

New Quarantine Zone – Collectors Take Note.

During 2002 a new "pest quarantine area" was legislated to further protect Queensland from exotic pests and diseases that threaten our agricultural industries.

The quarantine area includes the area of Queensland that exists north of latitude 13°45' south (Torres Strait and Cape York area north of Coen). The quarantine area is legally referred to as "The Far Northern Pest Quarantine area". The pest quarantine areas main objectives are to prevent the movement of targeted pests out of the quarantine area and to prevent the spread of targeted pests within the quarantine area. A person wanting more information and wishing to move targeted pests or plants infested with targeted pests can apply for an Inspector's approval by contacting Mr Russell Gilmour, Regional Inspector, Plant Health on Ph. (07) 40 441 650 or Mob. 0417 791 421 or E-mail: - russell.gilmour@dpi.qld.gov.au.

Thrips and Tospoviruses: Proceedings of the 7th International Symposium on Thysanoptera

This proceedings volume from the Symposium held in July 2001 at Reggio Calabria, Italy, comprises 59 papers and was published on 31 December2002 by the Australian National Insect Collection (ISBN 0-9750206-0-9). To minimise distribution costs, it is issued as a .pdf file on a cd-rom that is thus fully searchable on computer. However, the 391 pages can be printed out to produce a hard copy (in colour) for library storage by anyone so interested. The cd-rom is being distributed free of charge. Copies are being mailed to the listed participants of the Reggio Calabria meetings, and further copies are available on request from <laurence.mound@csiro.au>

THRIPS VECTORS OF TOSPOVIRUSES

So many thrips - so few tospoviruses? Laurence Mound.
The pest and vector from the East: *Thrips palmi*. Tamotsu Murai.
The pest and vector from the West: *Frankliniella occidentalis*. William D.J. Kirk.

VECTOR/VIRUS INTERACTIONS

The transmission specificity and efficiency of tospoviruses. Tatsuya Nagata, Ana Carla Leite Almeida, Renato de Oliveira Resende & Antonio Carlos de Àvila.
The route of TSWV inside the thrips body in relation to transmission efficiency. Kritzman, A., Gera, A., Raccah, B., Lent, J.W.M van, and Peters, D.
Impeded transmission of defective isolates of *Tomato spotted wilt virus* by *Frankliniella occidentalis*. Tatsuya Nagata, Alice K. Inoue-Nagata, Marcel Prins, Rob Goldbach and Dick Peters.
Intraspecific variation in transmission of TSWV by *Frankliniella occidentalis* result from distinct virus accumulation. Sakurai, T., Inoue, T. & Murai, T.
Accumulation and transmission of TSWV at larval and adult stages in six thrips species: distinct patterns between *Frankliniella* and *Thrips*. Toshiro Inoue, Tamito Sakurai, Tamotsu Murai, and Takanori Maeda.

ASPECTS OF VECTOR EFFICIENCY

***Thrips tabaci*: an ambiguous vector of TSWV in perspective**. Elisavet Chatsivassiliou.
The vector capability of *Thrips tabaci*. Gábor Jenser, Ágnes Szénási, Astéria Almási and Richard Gáborjányi.
Efficiency of north western Italian thrips populations in transmitting tospoviruses. Tavella L, Tedeschi R, Mason G, Roggero P.
Aspects of vector thrips biology and epidemiology of tospoviruses in Australia. Clift, A.D. and Tesoriero, L.

TOSPOVIRUS CHARACTERIZATION AND MANAGEMENT

Transmission of Iris Yellow Spot Tospovirus. Kritzman, A., Raccah, B. and Gera, A.
Characterization of *Tomato chlorotic spot virus* from hydroponic grown lettuce in Brazil. Addolorata Colariccio, Marcelo Eiras, Alexandre L. R. Chaves, Ricardo Harakava and César M. Chagas.
Resistance to tospoviruses in pepper. P. Roggero, S. Pennazio, V. Masenga, and L. Tavella
Management of TSWV on tomatoes with UV-reflective mulch and acibenzolar-S-methyl. M. T. Momol, J.E. Funderburk, S. Olson and J. Stavisky.
N – N and N – RNA Interactions in TSWV. Gregor Bucher, Joachim Uhrig, Jana Hackbusch & Peter Schreier.

THRIPS ECOLOGY

Ecology of thrips. Joe Funderburk.
Predation of *Frankliniella occidentalis* by *Orius insidiosus* on plant hosts serving as sources of populations infesting fruit orchards. Renato Ripa, Fernando Rodriguez, Joe Funderburk and Fernanda Espinoza.
Interspecific variation in behavior and its role in thrips ecology. Stuart R. Reitz, Joe E. Funderburk, Eric A. Hansen, Ignacio Baez, Scot Waring and Suresh Ramachandran.
Influence of parasitism by *Thripinema fuscum* on dynamics of local populations of *Frankliniella fusca*. Julianne Stavisky, Joe Funderburk, Tim Momol, and Dan Gorbet.
Recent advances in the nutritional ecology of Thysanoptera, or the lack thereof. Brent V. Brodbeck, Joseph Funderburk, Julie Stavisky, Peter C. Andersen and Jan Hulshof.

THRIPS HOST PLANT RELATIONSHIPS

Thrips: the primeval pollinators? Irene L. Terry

Sex-biased herbivory in Jack-in-the-Pulpit (*Arisaema triphyllum*) by a specialist thrips (*Heterothrips arisaemae*). Ilka C. Feller, Hiroshe Kudoh, Christopher E. Tanner, and Dennis F. Whigham.

Western flower thrips feeding on pollen, and its implications for control. Jan Hulshof and Irene Vänninen.

Preference and performance of western flower thrips. Willem Jan de Kogel.

Effects of plant volatiles on the feeding and oviposition of *Thrips tabaci*. Elizabeth Koschier and Katrin A. Sedy.

Thrips responses to plant odours. Willem Jan de Kogel and Elizabeth Koschier.

Growth damage and silvery damage in chrysanthemum caused by *Frankliniella occidentalis* is related to leaf food quality. S.Y. Fung, I. Kuiper, C.M. van Dijke-Hermans and E. van der Meijden.

CONTROL STRATEGIES

A push-pull strategy for improving biological control of western flower thrips on chrysanthemums. Jude Bennison.

Monitoring *Pezothrips kellyanus* on citrus in eastern Sicily. F. Conti, R. Tumminelli, C. Amico, R. Fisicaro, C. Frittitta, G. Perrotta and R. Marullo.

***Thrips tabaci* as a pest of leek cultivated in different conditions.** Halina Kucharczyk and Hanna Legutowska.

Reducing spread of TSWV on ornamental plants by biological control of western flower thrips. Jude Bennison.

Preliminary investigation on damage by *Frankliniella intonsa* to cotton in the Cukurova region of Turkey. Ekrem Atakan and A. Faruk Özgür

Determining the favourable sampling time for *Frankliniella intonsa* on cotton. Ekrem Atakan and A. Faruk Özgür.

Developing methods for testing the resistance of white cabbage against *Thrips tabaci*. Jozsef Fail and Bela Penzes.

Establishing a weed host ranking for thrips vectors of tospovirus in La Plata horticultural belt of Buenos Aires, Argentina. Carrizo Paola I.

Thrips control on protected sweet pepper crops: enhancement by means of *Orius laevigatus* releases. Tommasini M.G. and Maini S.

THRIPS BEHAVIOUR

The biology of thrips is not the biology of their adults: a developmental view. Gerald Moritz.

Diurnal activity of New Zealand flower thrips on stonefruit in spring and at harvest. G.F. Mclaren and J.A. Fraser.

Ectoparasitism in thrips and its significance for tospovirus evolution. Silvia Marisa Jesien Pinent, Laurence A. Mound, and Thiago J. Izzo.

Chemical defence in thrips. Gunter Tschuch and Gerald Moritz.

Thrips as architects: modes of domicile construction in arid Australia. David Morris and Laurence Mound.

THRIPS FAUNISTICS

Impact of an introduced pest thrips on the indigenous natural history and agricultural systems of southern Italy. Rita Marullo.

Thysanoptera diversity: survey of the species occurring at Parque Estadual de Itapuã, Viamão, RS, Brazil. Silvia M. J. Pinent, Helena P. Romanowski, Luiza R. Redaelli.

***Hoplothrips carpathicus* Pelikán in Norway.** Sverre Kobro.

Temporal and spatial dynamics of thrips populations in mountainous meadows. Liliana Vasiliu-Oromulu.

The dynamics of the sex ratio index of thrips populations in mountainous meadows. Liliana Vasiliu-Oromulu

The Thysanoptera Fauna of Brazil. Renata Monteiro.

On the occurrence of Thysanoptera in Poland. Halina Kucharczyk and Irena Zawirska.

Thrips from coloured water traps in Serbian wheat fields. Ljiljana Andjus, Radoslava Spasic, and Milenko Dopudja.

Thrips in Slovenia. Stanislav Trdan.

Eight species of Thysanoptera newly recorded from Italy. Giorgio Ravazzi.

Occurrence of glasshouse Thysanoptera in the open in the Netherlands. G. Vierbergen.

THRIPS TAXONOMY

Identification of thrips using ITS-RFLP analysis. Moritz G., Paulsen M., Delker C., Picl S. & Kumm, S.

Genetic variation within and among populations of *Aeolothrips intermedius*. Bayar K., O. Törjék, E. Kiss, G. Gyulai, and L. Heszky.

Molecular polymorphism among populations of *Frankliniella intonsa*. Gyulai G., K. Bayar, O. Törjék, E. Kiss, J. Kiss, Z. Szabó, and L. Heszky.

Variation of *Thrips tabaci* in colour and size. Tamotsu Murai and Satoshi Toda.

The *Thrips* and *Frankliniella* genus-groups: the phylogenetic significance of ctenidia. Laurence Mound.

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INC.
NOMINATION FOR MEMBERSHIP

Please return to: Ms Nancy Endersby, AES Secretary, c/o Institute for Horticultural Development, Private Bag 15, Ferntree Gully Delivery Centre VIC 3156 AUSTRALIA

We, the undersigned

Proposer .....
(print name) (signature)

Seconder .....
(print name) (signature)
being financial members of the Society, propose the following for membership of the Australian Entomological Society Inc.

Title.....Initials.....Given name.....Family name.....

of (Address) .....

.....Post Code.....

Tel. .....Fax .....

E-mail ..... Degrees, etc. .....

Interests, experience and publications in entomology for publication in the News Bulletin *Myrmecia* (please attach brief resumé) .....

I accept nomination and undertake, if elected, to abide by the rules of the Society and to pay annual subscriptions by the date prescribed.

Signature .....**Date** .....

For **2003**: Annual subscription $110.00; full-time student or retired members $55.00 (incl. GST)

Students please attach proof of full-time student status
Payment in Australian dollars is required with nomination and may be made by MONEY ORDER, CHEQUE (made payable to Australian Entomological Society Inc.) or CREDIT CARD

Bankcard Visa Mastercard

Cardholder Name _____
Number _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Expiry date _ _/_ _

Signature _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _I require a receipt YES/ NO